Claims

1-50. (canceled)

51. (previously presented) An integrated circuit comprising:

a supporting structure; and

an enhanced-surface-area electrically conductive ruthenium-containing layer situated on the supporting structure, the ruthenium-containing layer having a non-textured surface adjacent the supporting structure and a textured surface with a mean feature size of at least about 100 Angstroms opposite the non-textured surface.

52. (previously presented) An integrated circuit comprising:

a supporting structure; and

an enhanced-surface-area electrically conductive nitrogen-passivated ruthenium-containing layer situated on the supporting structure, the ruthenium-containing layer having a non-textured surface adjacent the supporting structure and a textured surface with a mean feature size of at least about 100 Angstroms opposite the non-textured surface.

53. (previously presented) An integrated circuit comprising:

a supporting structure; and

an enhanced-surface-area electrically conductive nitrogen-passivated and oxygen-passivated ruthenium-containing layer situated on the supporting structure, the ruthenium-containing layer having a non-textured surface adjacent the supporting structure and a textured surface with a mean feature size of at least about 100 Angstroms opposite the non-textured surface.

54.-71. (canceled)

72. (previously presented) The integrated circuit of claim 51, wherein the ruthenium-containing layer includes a nitrogen-passivated portion at the textured surface.

73. (previously presented) The integrated circuit of claim 51, wherein the ruthenium-containing layer includes a nitrogen-passivated and oxygen-passivated portion at the textured surface.

74. (new) The integrated circuit of claim 51, wherein the supporting structure is a plug formed in a dielectric material.

75. (new) The integrated circuit of claim 51, wherein the supporting structure includes a plug that extends outwardly from a surface of the supporting structure.

76. (new) The integrated circuit of claim 51, wherein the supporting structure is a plug formed in a dielectric material.

77. (new) The integrated circuit of claim 51, wherein the supporting structure includes a plug that extends outwardly from a surface of the supporting structure.

78. (new) An integrated circuit comprising:

a supporting structure that includes a conductive plug; and

an enhanced-surface-area electrically conductive ruthenium-containing layer situated on the supporting structure.

79. (new) The integrated circuit of claim 78, wherein the conductive plug extends outwardly from the supporting structure.

80. (new) The integrated circuit of claim 78, wherein the conductive plug is situated in an opening in a dielectric material.

81. (new) The integrated circuit of claim 78, wherein the ruthenium-containing layer has a non-textured surface adjacent the supporting structure and a textured surface with a mean feature size of at least about 100 Angstroms opposite the non-textured surface.